<u>EXHIBIT A</u>

MEMORANDUM FOR : "CREST" RFP INTEGRATED PRODUCT TEAM (IPT)

SUBJECT: Specification and Standards Reform/Single Process Initiative (SPI)

Replacement of multiple Government-unique management and manufacturing requirements with common, facility-wide systems is one of the cornerstones of acquisition reform. On June 29, 1994, Secretary of Defense, Dr. William Perry, directed the use of performance specifications to the maximum extent practicable. Additionally, on December 8, 1995, Dr. Perry and Undersecretary of Defense for Acquisition & Technology, Dr. Paul Kaminski, announced the SPI to accelerate the shift from multiple Government-unique requirements toward facility-wide common processes on existing contracts. I want to ensure that the RFP developed for the CREST program supports these objectives.

With this in mind, I would like the IPT review the attached system requirements document and recommend appropriate language that would allow for contractors to propose using single processes that have been previously approved on existing contracts under the SPI.

Additionally, I would like the IPT to review the document for any canceled specifications and standards and recommend alternative approaches such as:

- Replace with a product performance requirement
- Replace with a non-government standard
- Replace with a contractor-defined process
- Delete the canceled specification or standard without replacement

Finally, I would like the IPT to recommend those specifications and standards included in the requirements document that should used for guidance only and those that should be mandatory due to the unique technical/safety requirements of the CREST program.

J. P SMITH
Col
CREST Program Manager

Attachment

CREW ESCAPE TECHNOLOGIES (CREST) EJECTION SEAT

SYSTEM SPECIFICATION

**THIS IS A SIMULATED EXERCISE
PREPARED FOR ACQUISITION REFORM WEEK
AND IS INTENDED TO FACILITATE
UNDERSTANDING OF
SPECIFICATIONS AND STANDARDS REFORM
AND THE
SINGLE PROCESS INITIATIVE
AS THEY RELATE TO NEW PROCUREMENTS**

SCOPE

1.1 Scope.

This specification establishes the performance, design, development, interface, and test requirements for the Crew Escape System Technology (CREST) EMD program

1.2 Purpose.

This specification provides the system description, performance requirements, and verification requirements for demonstration of advanced technologies relating to emergency escape systems for military aircraft.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

The following documents of the exact issue shown, form a part of this specification to the extent specified herein. In the event of conflict between the documents herein and the contents of this specification, the contents of the specification shall take precedence.

SPECIFICATIONS:

Federal

PPP-B-601H(I2)	Boxes, Wood, Cleated-Plywood
PPP-B-621D(3)	Box, Wood, Nailed and Locked Corner

Military

MIL-S-5002D(1)	Surface Treatments and Inorganic Coatings for Metal Surfaces of Weapons Systems
MIL-C-6021H(1)	Casting, Classification and Inspection of Aluminum Castings
MIL-E-6051D(1)	Electromagnetic Compatibility requirements, Systems
MIL-H-6088G(1)	Heat Treatment of Aluminum Alloys
MIL-W-6858D(1)	Welding, Resistance: Spot and Seam
MIL-W-6873C	Welding, Flash, Carbon and Alloy Steel
MIL-H-6875H(1)	Heat Treatment of Steels (Aircraft Practice)
MIL-B-7883B(1)	Brazing of Steels, Copper, Copper Alloys, Nickel Alloys, Aluminum and Aluminum Alloys
MIL-A-87221A	Aircraft Structures, General Requirements
MIL-C-22751D(1)	Coating Systems, Epoxy-Polyamide, Chemical and Solvent Resistant
MIL-P-23377G	Primer, Coatings: Epoxy, High-Solids
MIL-C-8837B(1)	Coating, Cadmium (Vacuum Deposited)
MIL-Q-9858A	Quality Program Requirements
MIL-P-116J	Preservation, Methods
MIL-W-8604(A)	Welding, Fusion; Aluminum Alloys
MIL-W-8611A	Welding, Metal Arc and Gas, Steels, and Corrosion and Heat Resistant Alloys
MIL-W-18326A	Welding of Magnesium Alloys
MIL-A-8625F	Anodic Coatings for Aluminum and Aluminum Alloys
MIL-E-87235	Emergency Escape, Aircraft
MIL-C-25918(2)	Cartridge Actuated Devices, Aircraft Crew Emergency
MIL-C-83124(1)	Cartridge Actuated Devices/Propellant
MIL-C-83125(1)	Cartridges for Cartridge Actuated Devices
MIL-T-43636B(2)	Thread, Aramid

STANDARDS:

Federal

FED-STD-191A(6)	Textile test Methods
FED-STD-751A(1)	Stitches, Seams, and Stitching

Military

MIL-STD-130H	Identification, Marking or U.S. Military Property
MIL-STD-970B	Standards and Specification, Order of Preference
MIL-STD-483A	Configuration Management Practices for Systems
MIL-STD-721C(2)	Definition for Terms of Reliability
MIL-STD-1553B(4)	Digital Time Division Command/Response
MIL-STD-785B(2)	Reliability Program for Systems and Equipment
MIL-STD-810E(3)E(3)	Environmental Test Methods and Engineering Guidelines
MIL-STD-838C	Lubrication of Military Equipment
MIL-STD-850B	Aircrew Station Vision Requirements
MIL-STD-882C(1)	System Safety Program Requirements
MIL-STD-889B(3)	Dissimilar Metals
MIL-STD-1186A	Cushioning, Anchoring, Bracing, Blocking, and Waterproofing
MIL-STD-1247C(4)	Markings, Functions and Hazard Designations of Hose, Pipe, and Tube Lines for Aircraft, Missile, and Space Systems
MIL-STD-1333B	Aircrew Station Geometry for Military Aircraft
MIL-STD-1388-A1(4)	Logistics Support Analysis
MIL-STD-1472D(3)	Human Engineering Design Criteria for Military Aircraft
MIL-STD-1635(1)	Reliability Growth Testing
MIL-STD-498	Software Development and Documentation

2.2 Nongovernment documents.

2.2.1 Company documents.

D485-10006-1	CREST Reliability Program
D485-10007-1	CREST Integrated Support Program
D485-10008-1	CREST Computer Development Program
D485-10000-1	CREST Test and Evaluation Master Plan
D485-10001-1	CREST Reliability Test Plan
D485-10000-1	CREST Systems Engineering Management Plan
D485-10005-1	CREST Escape System Performance Baseline

2.3 Drawings.

L0485-11000	Escape System Assembly
L0485-11001-1	Escape System Interface Control Drawing

3. REQUIREMENTS

3.1 System Definition.

The capabilities of the escape system shall be integrated into a system level design. these capabilities shall provide --

a. Ejection seat design approaches that are compatible with advanced aircraft cockpit design concepts and existing aircraft.

b. Ejection seat design approaches that are compatible with crew members ranging in size from the 1st through 99th percentile aircrew.

c. A body positioning and restraint method that can be repetitively operated during flight and is power-assisted and pilot-commanded with an automatic G-adaptive control system.

d. A pre-ejection torso and extremity positioning and restraint method that provides acceleration and windblast protection as well as prevents impacts with cockpit and cockpit equipment.

e. Control of ejection forces over the range of flight acceleration, temperatures, and ejection weights to reduce the rate of spinal injuries.

f. Crew protection and escape system performance up to an aircraft airspeed of 700 KEAS at the point of ejection.

g. Control of the ejection seat trajectory to avoid aircraft, seat, parachute, collision or entanglement, and premature ground impact.

h. Continuous control of the ejection seat until personal parachute line stretch under various conditions of airspeed, altitude, and attitude to minimize the probability of injury during recovery parachute opening operations.

i. A highly reliable system that includes real-time redundancy management as well as fail-safe, fault-tolerant, and automatically controlled operations.

j. Provisions to accommodate altitude protection equipment to provide safe descent from 70,000 ft.

k. Means to reduce the number of parachute landing fall injuries by decreasing descent rate and by the use of automatic reduction of parachute oscillation.

l. Design approaches that will result in increased service life, increased shelf life, commonality of components, failure detection, fault isolation, and improved supportability.

m. A survivable memory capability on board the ejection seat from which recorded information relative to ejection conditions can be extracted subsequent to the mishap.

n. Design approaches that allow life support equipment to remain on board when aircrew members depart the aircraft under normal, nonemergency egress conditions.

The CREST ejection seat system consists of hardware, software, and equipment which, upon initiation, can be ejected from the aircraft and provide the occupant with means to decelerate and return safely to earth.

3.1.1 General Description.

The CREST crew escape system consists of 14 subsystems that provide crew seating and support during normal flight, crew escape and protection during aircraft emergencies, support of ground operations, and integration within the designated aircraft cockpits. These functions are performed by the coordinated effort of the seat adjustment, seat assembly, propulsion subsystem, catapult, restraint, sequencer/controller software, sequencer/controller hardware, parachutes, ballistics, life support equipment provisions, sensors, aerodynamic devices, seat cushions, and windblast protection.

These subsystems perform the following functions:

1. Seat Adjustment. Supports and positions the seat in the cockpit.

2. Seat Assembly. Seat structure with attached mechanisms, cables, tubing, and subcomponent mounting brackets.

3. Propulsion System. Primary thrust rocket motors with thrust vector control nozzles and attitude control reaction jets with gas generators and plumbing. Provides thrust for trajectory, attitude. and stability control.

4. Catapult. Dual catapult assembly that supports the seat and provides ejection thrust and guidance.

5. Restraint. Seat mounted torso harness with adaptive retraction and cinching capability. Provides adaptive restraint of crew member during normal flight ejection.

6. Sequencer/Controller Software. Computer programs that provide logic to electronically control and initiate functions.

7. Sequencer/Controller Hardware. Microprocessor, power supply, and initiator firing control unit. Implements the control and sequencing of sequencer/controller software.

8. Parachutes. Ram air inflatable drogue device with bridle assembly and recovery parachute with risers. Stabilizes and decelerates crew member/seat, separates crew member from seat, and effects crew member descent.

9. Ballistics. Mechanical and electrical initiators, gas generators and inflatable devices, and thin layer explosive (TLX) signal transmission lines. Sequences and initiates seat subsystems.

10. Life Support Equipment Provisions. Personal equipment connector, aircraft services connector, space and interface connections for survival kit, and emergency breathing system.

11. Sensors. Inertial sensor unit (accelerometers and rate gyros), pitot tubes, and radar altimeter. Provides aircraft, seat, and crew member position, rate, and acceleration data.

12. Aerodynamic Devices. Trim vanes that stabilize the seat in pitch and yaw.

13. Seat Cushions. Rate dependent foam cushions to distribute loads and minimize acceleration magnification.

14. Windblast Protection . Flow stagnation fence to reduce windblast induced loads on head, torso, and upper arms. Nets to prevent arm flail. Straps over legs to prevent leg flail. Deployable panels to prevent foot rotation.

3.1.2 Missions.

The CREST crew escape system shall provide emergency escape and protection throughout the wide range of escape conditions associated with contemporary and future high performance aircraft.

3.1.3 Threat.

Potential enemy weapons capabilities include the ability to identify targets by radio frequency, infrared, and other radiated transmissions. The escape system should provide adequate protection to avoid such transmissions during normal flight operations.

3.1.4 System diagram.

The CREST crew escape system shall provide crew escape operations, normal aircraft flight operations, and ground operations as illustrated in the top level flow diagram.

Figure 1 omitted for this exercise.

3.1.4.1 Crew escape functions.

The crew escape system performance shall be explicitly controlled and related to the needs reflected by the conditions of the escape to maximize the potential for crew survival. To provide this capability, the escape system performs pre-ejection functions, data recording, windblast protection, acceleration protection, emergency life support, ejection operations, trajectory and stability control, descent, seat/aircrew separation and recovery, or emergency ground egress functions.

Paragraphs 3.1.4.1 through 3.1.7.2 omitted for this exercise.

3.2 Characteristics.

3.2.1 Escape envelope requirements.

3.2.1.1 Altitude - airspeed boundaries.

The required escape capabilities in terms of altitude and airspeed are from ground level to 70,000 ft. The airspeed boundaries extend from 0 KEAS to 700 KEAS up to an altitude of 50,000 ft. The escape system design shall provide safe flight dynamics and provisions for physiological support of the seat occupant during descent from an altitude of 70,000 ft at any airspeed up to Mach 3.

Paragraphs 3.2.1.1 through 3.1.7.2 omitted for this exercise.

3.2.2.3 Strength requirements.

The escape system structure shall be designed to withstand loads to be encountered during emergency escape and aircraft crash. The demonstration seat and restraint system shall be designed to meet the crash load factors specified in Table I of MIL-A-87221A. The design load limits shall be determined and described within the seat assembly specification (S485-1102-1).

Paragraphs 3.2.2.4 through 3.2.2.3.3 omitted for this exercise.

3.2..3 System reliability.

The design of all equipment shall include considerations of reliability. Reliability studies shall be based on sound, practical engineering judgment, test data where available, and field experience data. The minimum acceptable probability of success shall be 0.98 at the 90% lower confidence limit as demonstrated by analysis. Success shall be defined as completion of the ejection sequence from initiation through recovery such that the crewmember would safely land on the earth’s surface without exceeding the human tolerance limits specified herein. Reliability analysis shall be conducted in accordance with MIL-STD-785B(2) to include reliability modeling, reliability allocations, reliability predictions, and Failure Modes, Effects, and Critical Analysis (FMECA). Data from qualification, acceptance, and reliability testing will be used to support the analysis.

3.2.3.1 Derated components.
All systems and components identified as critical through FMECA (MIL-STD-785B(2) task 204) shall be designed to operated in a derated condition (below maximum capacity) to ensure reliable performance.

Paragraphs 3.2.3.2 through 3.2.9 omitted for this exercise.

3.3 Design and construction.

3.3.1 Materials, processes and parts.
Materials which are not covered by requirements herein shall be of the highest quality, lightest weight practicable, and suitable for the purpose intended. Specifications and standards for all materials, processes, and parts not controlled herein shall be selected in accordance with the order of precedence specified in MIL-STD-970B.

3.3.1.1 Metals.
Metals used in the seat shall be corrosion resistant or shall be treated with an anti-corrosion protective coating. Dissimilar metals, as defined in MIL-STD-889B(3), shall not be used in contact with each other unless suitably protected against electrolytic corrosion. Castings shall conform to MIL-C-6021H(1). Non-corrosion resistant steels shall not be used except where higher strength is required than can be obtained with corrosion resistant steels. If these higher strength steels are required, the following are recommended: 54330M, 4340, 4340M or 9Ni-4Co-0.30C. These noncorrosion resistant steels shall subsequently be vacuum cadmium plated per MIL-C-8837B(1) or Ti-Cd plated.

Aluminum alloys susceptible to stress corrosion cracking, such as 7075-T6 in forgings and plates where short traverse stress occurs, shall be avoided. Specific aluminum alloys which may be used are 2014, 7075, and 7050.

Paragraphs 3.3.1.2 through 3.3.1.5 omitted for this exercise.

3.3.1.6 Construction methods.
Riveting or welding may be used in the construction of the seat system where permanent attachments are made. Fittings and joints requiring disassembly for maintenance shall be attached by bolting or other suitable removable attachment.

3.3.1.6.1 Finishes and protective treatments.
Materials subject to deterioration or corrosion during service shall be protected in accordance with MIL-S-5502D(1) and the following paragraphs. The protective treatment shall be such that it will in no way prevent compliance with the performance requirements of this specification, or hinder or prevent the intended use of the items.

3.3.1.6.1.1 Protective chemical treatment of metals.
Aluminum alloy parts shall be anodically treated in accordance with MIL-A-8625. Noncorrosion-resistant steel parts shall be cadmium plated in accordance with MIL-C-87221D(1).

3.3.1.6.1.1.1 Protective chemical treatment of aluminum metals.
Aluminum alloy parts shall be anodically treated in accordance with MIL-A-8625 Type II, Class 1. High-strength Noncorrosion-resistant steels shall be Vacuum Cadmium plated MIL-C-8837B(1).

3.3.1.6.1.1.2 Protective organic treatment of metals.
Before the application of protective organic coatings, all metals shall be prepared according to 3.3.1.6.1.1.1. The metal shall be primed with one coat in accordance with MIL-P-23377G followed by 2 coats of epoxy-polyamide in accordance with MIL-C-22751D(1). Enamel colors white, gray, black, or others will be selected based upon specific use or requirements.

3.3.1.6.2 Heat treatment.
Heat treatment of aluminum and steel parts shall be in accordance with MIL-H-6088G(1) and MIL-H-6875H(1), respectively.

3.3.1.6.3 Welding and brazing.
Welding and brazing methods shall be in accordance with MIL-W-6858D(1), MIL-W-6873C, MIL-B-7883B(1), MIL-W-8604A, MIL-W-8611A or MIL-W-18326A, as applicable.

3.3.1.6.4 Stitching.
All seams and connections of the seat cushions and seat backs, as applicable, shall be made with nylon thread of a size and strength consistent with load requirements specified herein. All such stitching shall be in accordance with FED-STD-751.

3.3.1.6.5 Safetying.
Fasteners, for mounting or assembly, utilizing self-locking features in accordance with MS33588 shall be used where possible in preference to safety wiring or cotter pinning. When the use of safety wiring or cotter pinning cannot be avoided, safety wiring and cotter pinning shall be employed in accordance with MS3350.

3.3.1.7 Lubrication.
Lubricants and lubrication shall conform to the requirements of MIL-STD-838C. Lubrication shall function satisfactorily within the temperature range of -65-deg F to +160-deg F.

3.3.1.8 Standard parts.
Existing government, industry and supplier standard parts shall be used to the maximum extent possible.

3.3.1.9 Nonmetallic parts.
Nonmetallic seals, gaskets, grommets and similar items used in the components shall be compatible with the environmental conditions specified herein.

3.3.1.10 Ballistics installation.
A primary objective in the CREST seat ballistics installations is to develop design approaches that will result in increased service life, increased shelf life, and commonality of components.

All propellant-actuated devices and cartridge-actuated devices shall conform to MIL-C-25918(2) or MIL-C-83124(1) or MIL-C-83125(1), as applicable.

3.3.1.11 Software.

3.3.1.11.1 Software standard.
A systems approach to software development shall be used in accordance with MIL-STD-498. Embedded software shall be written in Ada.

Paragraphs 3.3.1.11.2 through 3.3.1.11.4 omitted for this exercise.

3.3.2 Electromagnetic radiation.

3.3.2.1 Electromagnetic compatibility (EMC).
Electronic circuitry and enclosures shall be designed to eliminate vulnerability, not hamper or cause ejection initiation, or hamper escape system performance due to electromagnetic pulse, line transients, lightning, or static electrical discharge (such as might be created by high-speed sled tests in a desert atmosphere). The design shall be electromagnetically compatible with the intrasystem, intersystem, and mission electromagnetic environment to ensure the crew escape system and subsystems operate without malfunction or degradation. Compatibility testing shall be accomplished in accordance with MIL-E-6051D(1).

Paragraphs 3.3.2.2 through 3.3.2.3 omitted for this exercise.

3.3.3 Nameplates and product marking.

3.3.3.1 Identification of the product.
Seat system equipment shall be marked for identification in accordance with MIL-STD-130H. A nameplate, permanently and legibly marked in accordance with MIL-STD-130H, shall be securely attached to the ejection seat in a location where it can be read without removal of the seat from the aircraft.

3.3.3.2 Identification of transmission hose and fluid lines.

All ballistic detonation transmission lines and fluid lines shall be marked in accordance with MIL-STD-1247C(4).

Paragraphs 3.3.4 through 3.3.5.1 omitted for this exercise.

3.3.6 Safety.

3.3.6.1 Fail-safe principles and features.
Fail-safe features shall be incorporated in the design to ensure against hazardous failure. Fail-safe operation shall avoid maximum (high-risk) performance and revert to nominal performance. For those instances in which component failures would result in a hazardous condition and fail-safe principles are not possible, redundant components or systems will be included in the design. Redundancies will be added to those critical components whose operation is essential to the safe operation of the equipment.

Paragraphs 3.3.6.1.1 through 3.3.6.3 omitted for this exercise.

3.3.6.4 Bonding and shielding.
Electrical bonding of system components will be performed to prevent equipment damage or personnel injury due to lightning discharge, electrostatic charges, induced RF voltages, and accidental short circuits.

Grounded shields shall be used on all system wiring to prevent explosion hazards or electrical system damage due to electromagnetic interference and electrostatic charges. Shields will be grounded to the chassis in accordance with MIL-E-6051D(1).

Paragraphs 3.3.6.5 omitted for this exercise.

3.3.7 Human factors/human engineering.
CREST seat equipment shall be developed using human engineering approach. Design procedures shall incorporate the relevant guidance and requirements contained, MIL-STD-850B for vision, MIL-STD-1333B for the seat/crew station interface, and MIL-STD-1472D(3) for systems, equipment ,facilities and maintenance.

Paragraphs 3.3.7.1 through 3.4 omitted for this exercise.

3.5 Integrated logistics support.
Principles of supportability as described in MIL-STD-1388-1A(4) shall be considered at each progressive level of detail and incorporated into the design. Reliability, maintainability, survivability, life cycle costs, and other logistics engineering areas shall be integrated in accordance with the Integrated Support Plan (D485-10007-1). This shall be accomplished by incorporation of the appropriate tasks outlined in MIL-STD-1388-1A(4). The supportability analysis tasks shall be performed in an interactive basis as the design progresses. The design shall consider two levels of maintenance: on equipment and off equipment.

3.5.1 Maintenance.

3.5.1.1 Built-in test (BIT).

The escape system design shall not require complex operational checks. The system shall be designed to provide a readily observable indicator of the functional status of the escape system before flight and a built-in test capability to detect sources of system . The design shall incorporate testability design techniques including BIT and self-test.

BIT design shall accommodate current aircraft and provide growth potential for future aircraft, that is, interface with the MIL-STD-1553B(4) data bus system. BIT shall detect at least 98% of all faults and provide 96% fault isolation to the correct LRU. A combination of BIT and manual techniques shall provide 100% fault isolation.

Paragraphs 3.5.1.2 through 3.8 omitted for this exercise.

4. QUALITY ASSURANCE PROVISIONS

4.1 General.

Examinations and tests specified herein apply to the CREST escape system. Included are requirements which apply to components of the system; however, these are limited to special verifications which are crucial to the overall quality of the system and which are not covered by individual component item specifications. Quality assurance provisions shall be performed in accordance with MIL-Q-9858A.

Paragraphs 4.1.1 through 4.3.5 omitted for this exercise.

4.3.5.1 High temperature.

The seat system shall be subjected to a high-temperature test in accordance with method 501, procedure I of MIL-STD-810E(3), except that step 4 shall be omitted. Steps 5 and 7 shall include operation of the ejection controls, seat adjustment, and adaptive restraint control.

4.3.5.2 Low temperature.

The seat system shall be subjected to a low-temperature test in accordance with method 502, procedure I of MIL-STD-810E(3). The temperature for Step 4 shall be -65-deg F. Steps 5 and 7 shall include operation of the ejection controls, seat adjustment, and adaptive restraint control.

4.3.5.3 Vibration.

The seat system shall be subjected to a vibration test in accordance with method 514.2, procedure IA, 514-2-23 and for category b.2 equipment of MIL-STD-810E(3). Equipment operation shall include operation of the ejection controls, seat adjustment, and adaptive restraint control.

4.3.5.4 Salt fog.
The seat system shall be subjected to a salt fog test in accordance with procedure I of MIL-STD-810E(3), method 509. Equipment operation shall include operation of the ejection controls, seat adjustment, and adaptive restraint control.

4.3.5.5 Humidity.
The seat system shall be subjected to a humidity test in accordance with method 507, procedure I of MIL-STD-810E(3). Equipment operation shall include operation of the ejection controls, seat adjustment and adaptive restraint control.

4.3.5.6 Rain.
The seat system shall be subjected to a rain test in accordance with method 506, procedure I of MIL-STD-810E(3). Equipment operation shall include operation of the ejection controls, seat adjustment, and adaptive restraint control. Operation during the rain is not required.

4.3.5.7 Temperature shock.
The seat system shall be subjected to a temperature shock test in accordance with method 503, procedure I of MIL-STD-810E(3). Step 9 shall include operation of the ejection controls, seat adjustment, and adaptive restraint control.

4.3.5.8 Dust.
The seat system shall be subjected to a dust test in accordance with method 510, procedure I of MIL-STD-810E(3). Step 5 shall include operation of the ejection controls, seat adjustment, and adaptive restraint control.

4.3.5.9 Shock.
The seat system shall be subjected to a shock test in accordance with method 516, procedures I and III of MIL-STD-810E(3). The shock pulse shape shall be in accordance with Figure 516-1, amplitude a and time duration c. Equipment operation shall include operation of the ejection controls, seat adjustment, and adaptive restraint control.

Paragraphs 4.3.5.10 through 4.3.5.11 omitted for this exercise.

4.3.5.12 Fungus.
Samples of all non-metallic materials used in the construction of the seat system shall be subjected to a fungus test in accordance with method 508, procedure I of MIL-STD-810E(3).

4.3.5.13 Flame resistance test.
Samples of all non-metallic seat material shall be tested in accordance with method 5906 of FED-STD-191A(6). The burning rate shall not exceed 4 in/min. In addition, if the specimens do not support combustion after the ignition flame is applied for 15 sec, or if

the flame extinguishes itself and subsequent burning without a flame does not extend into the undamaged areas, the material shall also be acceptable.

Paragraphs 4.3.6 through 4.3.6.5 omitted for this exercise.

4.3.7 Reliability.

Reliability, qualification, and acceptance testing of system components shall be conducted in keeping with the intent of MIL-STD-1635(1). Testing shall be selectively applied with emphasis on reliability critical items. Testing shall be combined with qualification or acceptance testing required by applicable component specifications.

Paragraphs 4.3.8 through 4.3.9 omitted for this exercise.

5. Preparations for delivery.

5.1 Preservation and packaging.

5.1.1 Level A.

Each seat system shall be preserved and packaged in accordance with MIL-P-116J, method IIA.

5.1.2 Level C.

Seat systems shall be preserved and packaged in a manner that will afford adequate protection against corrosion, deterioration, and physical damage during shipment from the supply source to the first receiving activity for immediate use. This level may conform to the supplier’s commercial practice provided the latter meets the requirements of this level.

5.2 Packing.

Packing shall be level A, B, or C, as specified.

5.2.1 Level A.

Seat systems preserved and packaged as specified in 5.1.1 shall be packed in shipping containers conforming to PPP-B-601H(I2) or PPP-B-621D(3). Insofar as practical, shipping containers shall be of uniform shape and size, of minimum cube and tare consistent with the protection required, and shall contain identical quantities. The gross weight of each shipping container shall not exceed the weight limitation of the specification. Containers shall be closed and strapped in accordance with the specification and appendix thereto.

5.2.2 Level B.

Seat systems preserved and packaged as specified in 5.1.1 shall be packed in a domestic-type shipping container conforming to PPP-B-601H(I2) or PPP-B-621D(3). The unit container, closed and strapped in accordance with the applicable appendix of the container specification, shall be the shipping container.

5.2.3 Level C.

Seat systems shall be packed in a manner that will afford adequate protection at the lowest rate against damage during direct domestic shipment from the supply source to the first receiving activity for immediate use. This level shall conform to applicable carrier rules and regulations and may be the supplier's commercial practice provided the latter meets the requirements of this level.

5.3 Physical protection.

Cushioning, blocking, and bracing shall be in accordance with MIL-STD-1186A, except that for domestic shipments, waterproofing requirements for cushioning materials and containers shall be waive. Drop tests of MIL-STD-1186A shall be waived when the item is preserved, packaged, and packed for immediate use of when the drop tests of MIL-P-116J are applicable.

5.4 Inspection window.

An inspection window shall be provided on method IIA packages in accordance with MIL-P-116J and shall be so located that the humidity indicator can be readily viewed.

The remainder of the specification is omitted from this exercise.